

rushes out of the waste-pipe of an engine, I cannot but think that such a power exerted horizontally, would forcibly impel a floating body through so subtle a fluid as the atmosphere.

In order to apply this power, however, it must always be made to impinge upon the surrounding air, in the direction opposite to the desired course. To secure this object I suggest that the boiler, or containing vessel, should have a rotatory tap, into one side of which the horizontal pipe should be fixed, while the opposite side should be furnished with a tiller, or with a rick, so as to be capable of being partially turned on an axis. This top being rotatory could be steered as with a ship's wheel, or other machinery, so as to present the jet towards any point of the compass at will.

I do not imagine that the application of this principle could effect a progression against a strong breeze, but in moderate weather, with the wind at any point behind the beam, I suppose it would enable the aerial navigator to lie his course, or, even with a moderate breeze abeam, so to compound the forces as to make way by tacking. Perhaps the weight of the apparatus, water, fuel, &c. would present a barrier to the employment of steam as the motive power; but air in a highly elastic form, compressed by means of a forcing-pump, might possibly require machinery that would not be beyond the powers of a balloon to carry. Might not a succession of discharges of air highly rarefied be produced by a series of explosions of gun-cotton? This substance is very light and easily compressible into a small bulk, and a very simple apparatus might be sufficient for its employment. The first balloon that ever elevated human beings into the air contained 60,000 cubic feet, and carried a weight of about 1,700 lbs.—P. H. Goss.

DESIDERATA IN HOUSE BUILDING.*

In every part of our houses there is room for improvement. We want walls combining warmth, cheapness, durability, and strength, faced with a material that shall imbibe neither the damp nor the smoke, and which an occasional ablution will make as good as new. We want a substitute for the everlasting paint-pot, for scaffolds, and stench. Cannot this be effected by the use of bricks, hollowed, hardened, glazed, coloured, and moulded, as the case may require? We want fireproof constructions for our floors and our partitions, not too heavy to be carried by ordinary walls. We may learn much from the French and Germans in their windows, and the fastenings thereof. The English sash, with its ropes, pulleys, and weights, must be superseded at last. The Crystal Palace will itself suggest the use of glass for our roofs, and, as the year of the exhibition is, we trust, to be appropriately chosen for the repeal of the odious window-tax, there is no reason why every house of any pretensions built henceforth in this country should not have a transparent roof, and be thereby enabled to utilize the space between it and the attics. The ventilation and warming of our houses demand a reform. At present we are exposed to the tortures which Milton assigns to some classes of the damned—we are suspended between a furnace and a draught, sitting before blazing fires knee-deep in streams of cold air. We want plans for diffusing a temperate atmosphere through all the rooms of a house, without a fire in every one of them, which few can afford, and which is far from advisable. The English might learn a good deal from the stores in use through the continent, especially those of Russia and Sweden. We want also a mild substitute for the feather bed and triple blanket, in which so many of our countrymen are still nightly stewed from November to May. Among other desiderata may be enumerated a more economical and effective kitchen apparatus, especially one that shall consume its own smell, or otherwise dispose of it;—a mode of internal communication which shall dispense with the bell, and, if possible, also with the journey of the servant to ask what is wanted;—window blinds that shall answer their various purposes better than either bollaard, or wire-gauze, or Venetian blinds, inside or out;—plates and dishes that shall not break quite so fast;—furniture that shall not compel careful housekeepers to shut out the sun; and decorations that will stand

the air of London more than three or four years.

Books.

A Hand-Book for the Parish of St. James, Westminster. By the Rev. MACKENZIE WALCOTT, M.A. London: Skeffington, 1850.

This pleasant and useful little volume will serve to make the houses of Pall-mall, St. James's-street, and the Haymarket more suggestive, to many, of past men and times, than they have hitherto been. "The canopy of smoke, the ceaseless importunate din, are to many the only characteristics of the metropolis. They pass without one solid thought the suggestive presence of its countless buildings,—without emotion joistle through the crowded thoroughfares, to them only the roads that lead to their places of business, concourse, or listless amusement, intent only upon their own selfish errands. Little do they wit of the outpouring of human energy, or reck of the great truth that every house has its momentous history; there the drawn curtain telling that the dusky footsteps of the Silent One have crossed the threshold; there the light ringing voices, and strains of merry music, are the notes of preparation for some home-festival; and there the last of his race, without a mourner, is borne away to the common city of the dead."

The changes which a few years have made in the parish are marked in the following paragraph in Mr. Walcott's preface. "We have been treading through the stream of Time, upon the stepping-stones of Civilization, marking how Piccadilly is no longer a quagmire, with herbalists looking wistfully for the pretty blue-eyed bugles, where the hanks were dry. We have glanced at the period when, in the fields round the Haymarket, good housewives went out to spread their snowy linen on the green turf to bleach; and along the modern Conduit-street, where, not two centuries since, the sportsman shot the snipe; and Dr. Sydenham pursued the thief, who stole his silver tankard from under his very eyes, until he grappled with him among the bushes in Bond-street." In the registers of St. James's are found, amongst many others, William Vande Velde, under date 1693, Dec. 16; Michael Dahl, Swedish portrait painter, the rival of Kneller, 1743, Oct. 26; James Gillray, the caricaturist, 1815, June 7; and G. H. Harlow, the painter, 1819, Feb. 16.

The Journal of the British Archaeological Association. No. XXIII. Oct. 31st.

THE new number of the Journal makes a very interesting and valuable volume. Not long ago it would have been considered of itself an ample return for the guinea subscription to the society. It is wholly occupied by the papers read at the Lancaster and Manchester Congress, and includes Mr. Pettigrew's paper on Archaeology, Mr. Ashpitel's on Manchester Cathedral, Mr. Planche's on the Stanley Crest, Rev. Mr. Bruce on Norman Fortresses, Mr. Harland on Ribchester, Mr. Whitaker on Local Nomenclature, Mr. Gilbert French on the Tippets of the Canons Ecclesiastical, Mr. Grogan on Chetham's Hospital, Mr. Sharpe on Furness Abbey, &c. &c.

Miscellaneous.

THE HAMMER.—The hammer is the universal emblem of mechanics. With it are alike forged the sword of contention and the ploughshare of peaceful agriculture—the press of the free, and the shackles of the slave. The eloquence of the forum has moved the armies of Greece and Rome to a thousand battle fields; but the eloquence of the hammer has covered those fields with victory or defeat. The inspiration of song has kindled high hopes and noble aspirations in the bosoms of brave knights and gentle dames; but the inspiration of the hammer has strewn the field with tattered helmet and shield, decided not only the fate of chivalric combat, but the fate of thrones, crowns, and kingdoms. The forging of a thunderbolt was ascribed by the Greeks to the highest act of Jove's omnipotence, and their mythology beautifully ascribes to one of their gods the task of pre-

siding at the labours of the forge. In ancient warfare the hammer was a powerful weapon, independent of the blade which it formed. Many a stout skull was broken through the cap and helmet by a blow of Vulcan's weapon. The armies of the crescent would have subdued Europe to the sway of Mahomet; but on the plains of France their progress was arrested, and the brave and simple warrior who saved Christendom from the sway of the Mussulman was Martel—"the hammer." The hammer, the saviour and bulwark of Christendom! The hammer is the wealth of nations. By it are forged the ponderous engine and the tiny needle. It is an instrument of the savage and the civilised. Its merry clinks point out the shade of industry. It is a domestic deity, presiding over the grandeur of the most wealthy and ambitious, as the most humble and impoverished. Not a stick is shaped, not a house is raised, a ship floats, a carriage rolls, a wheel spins, an engine moves, a press squeaks, a viol sings, a spade delves, or a flag waves, without the hammer. Without the hammer, civilisation would be unknown, and the human species only as defenceless brutes; but in skilful hands, directed by wisdom, it is an instrument of power, of greatness, and true glory.—*The Scientific American.*

THE ARCHAEOLOGICAL INSTITUTE.—The first ordinary meeting of the Archaeological Institute for the session of 1856 and 1857, was held at their rooms in Suffolk-street, on Friday, the 1st inst. Mr. Edward Hawkins, F.R.S., in the chair. Several communications were read; amongst others, one from Mr. Birch, of the British Museum, being the description of an ebony stud and plinth brought from Egypt by the Marquis of Northampton, bearing the name of Amenophis the Third and his daughter, a queen, and supposed to have been part of the inlaying and fastening of a box. Wherever the name of this king appears on the monuments in Egypt, it has been very carefully obliterated, and on the stud and plinth in question both his name and that of his daughter had shared the same fate, probably owing to the religious animosity that prevailed in Egypt after his death between the Ateu, or "dark" worshippers, and those of the older religion of Ammon. Mr. Birch also pointed out that this plinth showed that Amenophis the Third associated with himself in the empire a princess, the daughter of himself and the Queen Tuia, probably the so-called Princess Amen-si, a new fact in Egyptian history. On the table were exhibited some works of ancient and mediæval art, including a beautiful silver gilt cinque-cento cup and cover, inlaid with cameo and enamel, a fine carved ivory triptick, and a silver-gilt collar composed of medallions decorated with coats of arms and emblems of archery, with a popinjay suspended from it, bearing the date of the 17th century, evidently belonging to some distinguished archery society.

CONSUMPTION OF SMOKE AT MANCHESTER.—The result of the enforcement of the Act for purifying Manchester from smoke appears to be most satisfactory. One of the council reports, among other particulars, that he lately waited on Mr. Hugh Beaver, and ascertained that the quantity of coal formerly used in his manufactory was seventy-eight tons per week, whilst a weekly saving is now effected of twenty-eight tons. "I visited Messrs. George Clarke and Sons' manufactory," continued Mr. Howarth, "and they told me the saving they effected was upwards of forty tons per week: they formerly used 140,—now less than 100. They have expended upwards of 1,200l. on new boilers to abate the smoke nuisance, and they expect the outlay will be repaid by the saving of coal effected, in a year and a half. I asked them," continued Mr. Howarth, "if they did not thank us for enforcing the system? The reply from Mr. Clarke was, 'Undoubtedly; and I wish you would enforce it more strictly upon our neighbours: it would save no trifle in the cleaning of windows, as well as prove beneficial to the public health.'"

A MONOLITH FOR THE LATE GEORGE STEPHENSON.—According to the *Derby Mercury*, Mr. James Trubshaw, architect, has under his consideration at the present moment the project of erecting a monument to George Stephenson, in one single stone, which would be several feet longer than Cleopatra's needle.

* From the Times.